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ABSTRACT

Based on the premise that effective teaching depends on successful communication, this booklet discusses the nonverbal dimension of communication. The booklet contends that humans use nonverbal communications for the following reasons: (1) words have limitations; (2) nonverbal signals are powerful; (3) nonverbal messages are likely to be more genuine; (4) nonverbal signals can express feelings too disturbing to state; and (5) a separate communication channel is necessary to help send complex messages. The booklet argues that teachers should be aware of nonverbal communication in the classroom to become better receivers of student messages and to gain the ability to send students positive signals that reinforce learning, and at the same time become more adept at avoiding negative signals that stifle learning. Several significant research highlights are presented and various areas of nonverbal expression are treated, including facial expressions; eyes; vocal intonation; touching; body postures and movements; dress; and use of space. The conclusion of the booklet maintains that if effective communication is to be achieved in today's schools, it must be as an open process where teachers and students possess the ability to send and receive messages accurately. (A table is included, and 181 references are appended.) (MS)

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THIRD EDITION

Nonverbal Communication

by Patrick W. Miller

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A National Education Association Publication

What Research Says to the Teacher

Nonverbal Communication

THIRD EDITION

by Patrick W. Miller

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INTRODUCTION TO THE THIRD EDITION

Communication is an ongoing process of sending and receiving messages that enables humans to share knowledge, attitudes, and skills. Effective teaching depends on successful communication (106).* When teachers and students interact, explicit and implicit communication is occurring (138).

Communication is composed of two dimensions—verbal and nonverbal (134, 1). Nonverbal communication has been defined as communication without words (32, 103, 119, 151, 56, 70, 147, 10, 8, 141, 150, 173). It includes overt behaviors such as facial expressions, eyes, touching, and tone of voice, as well as less obvious messages such as dress, posture, and spatial distance between two or more people (120). Without uttering a single word, teachers and students constantly send messages to each other. In fact, consciously and unconsciously, they send and receive nonverbal cues several hundred times a day (32, 151, 23, 140). Even when people do not move, they transmit messages by physique, sex, and skin color (166). "Everything communicates," including material objects, physical space, and time systems (71). Although verbal output can be turned off, nonverbal cannot. Even silence speaks (103).

> No matter how one may try, one cannot not communicate. Activity or inactivity, words or silence all have message value: they influence others and these others, in turn, cannot not respond to these communications and are thus themselves communicating. (88, p. 49)

> He who has eyes to see and ears to hear may convince himself that no mortal can keep a secret. If his lips are silent, he chatters with his fingertips; betrayal oozes out of him at every pore. (170, p. 94)

Commonly, nonverbal communication is learned shortly after birth and practiced and refined throughout a person's lifetime (23, 1, 75). Before language emerges, infant behaviors communicate (14, 1). Children first learn nonverbal expressions by watching and imitating, much as they learn verbal skills (110, 45). Young children know far more than they can verbalize (160, 132) and are generally more adept at reading nonverbal cues than adults are because of their limited verbal skills and their recent reliance on the nonverbal to communicate (104, 103). At approximately one year of age, children use distance, eye contact, gestures, touch, intonation patterns, vocalizing, and smiling to communicate with adults and peers (143). As children develop verbal skills, nonverbal channels of communication do not cease to exist. Rather, the nonverbal messages

*Numbers in parentheses appearing in the text refer to the Bibliography for the Third Edition beginning on page 26.

become entwined in the total communication process (178). These learnings are fundamental because emotional meanings may be communicated through nonverbal channels (83). Humans use nonverbal communication for the following reasons (6):

1. *Words have limitations*. Although through the use of words humans are able to communicate far better than many animals, there are still numerous areas where nonverbal communication is more effective. For example, most people find it difficult to explain the shape of something or to give directions without using hand gestures or head nods. Similarly, personalities are expressed nonverbally, enabling others to form clear impressions, which they ultimately use to direct their responses.
2. *Nonverbal signals are powerful*. Because nonverbal cues primarily express inner feelings, they generally evoke immediate action or response. Verbal messages deal basically with the outside world; therefore, first the information must be considered and its implications explored. Action is immediate only when well-trained individuals receive commands or orders.
3. *Nonverbal messages are likely to be more genuine*. Except for facial expressions and tone of voice, nonverbal behaviors cannot be controlled as easily as spoken words can. Moreover, some signals, such as pupil dilation and perspiration, can be controlled only by modifying the emotional state, which is far more difficult than modifying the body message.
4. *Nonverbal signals can express feelings too disturbing to state*. Social etiquette limits what can be said, but nonverbal cues can communicate thoughts. In interpersonal relationships, it would be improper to express dislike of another person or to say that one thinks one is better than the other person, but both sentiments can be expressed nonverbally. Conveniently, though, if people have not verbalized their feelings, they can change their minds freely without having committed themselves.
5. *A separate communication channel is necessary to help send complex messages*. In addition to expressing feelings and other personal information, nonverbal actions greatly aid verbal communication. Vocal intonation alone tells when a speaker has finished a sentence, what is most important in the speech, and even when the speech has ended. Listener feedback, if vocalized, would be a hodgepodge of interruptions and doubletalk. A speaker can add enormously to the complexity of the verbal message through simple nonverbal signals.

Nonverbal behaviors can be amazingly quick and subtle (147, 101, 75) or very explicit (132, 101); they either support or contradict the verbal message being transmitted (141, 111, 1, 101, 117, 96, 137, 167).

Research in communication suggests that many more feelings and intentions are sent and received nonverbally than verbally (75, 60, 116, 17). It has even been suggested that only 7 percent of a message is sent through words, with the remaining 93 percent sent through facial expressions (55 percent) and vocal intonation (38 percent) (117). Words are accented and punctuated by body movements and gestures, while the face shows a myriad of expressions (121). Thus, nonverbal and verbal messages are intertwined as inseparable parts of human communication (30, 86).

It is important to be aware of the dominance of the nonverbal message. If there is incongruity between the verbal and the nonverbal, the nonverbal will win hands down (455, 140). Also, the validity and reliability of verbal messages are checked by nonverbal actions (169). Again, if a discrepancy exists, the nonverbal will dictate.

> Wise men read very sharply all your private history in your look and gait and behavior. The whole economy of nature is bent on expression. The telltale body is all tongues. Men are like Geneva watches with crystal faces which express the whole movement. (40, p. 409)

Importance of Nonverbal Communication

Teachers should be aware of nonverbal communication in the classroom for two basic reasons: (1) to become better receivers of student messages and (2) to gain the ability to send students positive signals that reinforce learning, and at the same time become more adept at avoiding negative signals that stifle learning (103, 134, 88, 124, 4).

Research suggests that a student's nonverbal expressions serve as an important source in the formation of a teacher's impressions, attitudes, beliefs, and reciprocal behavioral expressions (13). Being a good message receiver requires more than just listening to words. Much is communicated by nonverbal means (151), such as feelings and values (50). Thus, to be a good receiver of student messages, a teacher must be attuned to many of these subtle cues (122, 5). Imagine for a moment how difficult it would be to have to teach a course by telephone. Without the help of the nonverbal dialogue that goes on in the classroom, teachers would not be able to assess their teaching methods and strategies as they ordinarily do. For example, students use smiles, frowns, nodding heads, and other not-so-obvious cues to tell teachers to slow down, speed up, or in some other way modify the delivery of instructional material.

The second reason for becoming familiar with nonverbal communication is to become better message senders. Just as it is important to be good receivers, so it is important to develop nonverbal "sending" skills. Not only are teachers often unaware of students' nonverbal behaviors, but they are also oblivious of the nonverbal messages they relay to students (132). It has even been contended that as many as 82 percent of teacher messages are nonverbal, while only 18 percent are verbal (66). Teachers express enthusiasm, warmth, assertiveness, confidence, or displeasure through their facial expressions, vocal intonation, gestures, and use of space (179). Widely used messages sent by teachers to reinforce or modify pupil behavior include smiles of approval, winks, scowls, and the "evil eye" (157). In addition, there are many other less common methods of nonverbal communication. Touch, for example, is often overlooked as a means of transmitting a message. A pat on the back can demonstrate

approval, whereas a slightly firmer pat on the head might bring a student to attention.

When teachers exhibit verbal messages that conflict with nonverbal messages, students become confused, and this confusion often affects their attitudes and learning. Evidence from clinical and neurosurgical research indicates that the left hemisphere of the brain is involved primarily in verbal and other analytical functions, while the right hemisphere is responsible for spatial and nonverbal processes (133, 95). If conflicting messages are communicated to these two hemispheric modes, each hemisphere emphasizes only one of the messages and omits information from the other (140). It is important that teachers understand this concept. If learning is to take place, students must be able to rely on teachers as credible sources for information (109).

Significant Research Highlights

Researchers are finding that nonverbal messages are far more pervasive and important in the everyday world than generally realized (64). These messages, however, are more complex and subtle than some literature has suggested. Be aware, though, that much of the literature on nonverbal communication leaves the impression that all nonverbal cues (such as crossed legs and head nods) have implicit meanings. This impression is erroneous because the meanings depend on when and where the cues are exhibited (50, 176). Not all nonverbal behavior is significant; in fact, no single gesture conveys a true meaning of a situation (116, 89, 104). Research has suggested, however, that nonverbal messages may be used by a judge to influence a jury's decision, a physician to affect the course of a patient's disease, a teacher to influence a student's intellectual progress (64), and an administrator to control subordinates (72, 15).

Pygmalion in the Classroom, considered one of the most intriguing and controversial publications in the history of educational research, supports the premise that teacher expectations (manifested nonverbally) can foster academic achievement. This classic study involved administering a relatively unknown IQ test to elementary school children in a low socioeconomic area. After testing, prospective teachers received a list of students' names identified as high scorers. In reality, these students were chosen at random, not as a consequence of the test results. The teachers were told to expect a great increase in intellectual performance from them. Ironically, at the end of the school year, these students did make sharp increases on IQ test scores (148). Obviously, the teachers did not tell the students they expected higher performances, but they may have conveyed such messages nonverbally through facial expressions, gestures, touch, and spatial relationships (181). These subtle nonverbal expectancy behaviors may have been all the students needed to change their self-image, motivation, or achievement (17, 20).

In another study, volunteers recruited to tutor elementary school children were told the experiment involved testing the psychological effects of lighting and that they were to present a five-minute lesson on home and family safety. The tutors were also read a statement about the students' abilities, classifying them as bright, control, or dull. After this brief explanation, each tutor was individually led into a room to present the lesson to the elementary child. In fact, the study did not measure the effects of lighting (which was only necessary to videotape the lesson), but rather the effect of the tutors' expectancies (conveying preconceived notions about intelligence and motivation) on their nonverbal behaviors. After the videotapes were evaluated by trained raters, it was concluded that tutors in the microteaching lesson exhibited patterns of nonverbal behavior toward students classified "bright" that were different from those exhibited toward students serving as the control and students termed "dull." The nonverbal behaviors displayed to "bright" students included touching, close proximity, forward body lean, eye contact, more gestures, approving head nods, and positive facial expressions (17). Such findings point out the need for teachers to be more conscious about judging students before they have a chance to prove (or improve) themselves. Despite efforts to be unbiased, fair, and just, teachers may have preconceived opinions about certain students, gained either from colleagues or hearsay.

Even professionals trained to administer tests objectively can be influenced by the case histories of their subjects. A study attempting to support this premise asked 32 practicing psychologists to evaluate the videotaped administration of an intelligence test to children. Prior to evaluation, each psychologist received a case history suggesting that the child was either bright or dull. Analyses of the psychologists' evaluations showed that these case histories significantly affected their judgments (90).

Physical closeness has also been shown to be a nonverbal component that can affect test performance of certain cultural groups. In a study investigating teacher warmth and physical proximity, a school counselor administered the Wechsler Adult Intelligence Scale to 15 Alaska Native high school students. Giving the tests in the usual fashion, the examiner sat 60 inches from the subjects and displayed a businesslike manner. Three weeks later, parts of the test were readministered with seven students randomly assigned to a nonverbal warmth group and eight students to a nonverbal cold group. In the warmth condition, the examiner sat 30 inches from the subjects, at their level and at right angles to them, and smiled frequently when giving the test. In the cold condition, the examiner remained 80 inches from the subjects, stood, and did not smile. Analyses of changed scores were significant; subjects in the warmth condition gained points and those in the cold condition remained constant or lost points (97).

Physical appearance can also influence teacher expectations. One study asked teachers to evaluate students' intellectual potential based on report

card grades, verbal descriptions, and pictures of an attractive or an unattractive student. Even though the demographic information was the same for both types of students, teachers evaluated the attractive students more favorably than their unattractive peers (18). In addition, experimental studies indicate that such expectations can be communicated nonverbally (16), creating many pedagogical implications.

In another study, teachers received a report containing pictures with names and ages of both male and female students fictitiously said to be involved in a school disturbance. Previously, adult raters had judged each picture as either attractive or unattractive. Each teacher was asked to read the report, evaluate the seriousness of the disturbance, and give a general impression of the student involved. When the disturbance was mild, the physical attractiveness of the student did not affect the teacher's reaction. When the misconduct was severe, however, teachers discerned that the behavior of unattractive boys and girls was chronically antisocial. Ironically, teachers did not usually give this judgment for serious misconduct reported for attractive students. They tended to view the attractive students as normal and blamed the misbehavior on their having a bad day (28).

Research has also been completed on the nonverbal behaviors of teachers toward the sex and the race of students (153, 84, 114). Both white and Black teachers appear to vary their nonverbal responses depending on the race and sex of the students involved in the interaction (44, 153). These studies support the need to ensure that teachers are sensitive to their own nonverbal behaviors when interacting with students from varying sex and ethnic groups. In addition, studies concerning social class and verbal and nonverbal communication are mixed (139, 11).

Nonverbal communication can be a powerful tool used by teachers of handicapped students. A study was conducted to determine whether vocational teachers exhibited different nonverbal behaviors when presenting a lesson to students of varying intellectual and/or physical characteristics. Before presenting the lesson, the vocational teachers were given hypothetical information regarding the academic performance level for each student. In addition, the teachers were not forewarned of the possibility of teaching a handicapped student. A concealed camera recorded the lesson and experts rated the nonverbal interaction. The findings indicated that vocational teachers exhibited more positive nonverbal behaviors toward students who were classified as nonhandicapped than toward those who were identified as handicapped. The findings also indicated that the vocational teachers exhibited more favorable nonverbal behaviors toward students identified as high achievers than toward those identified as low achievers (106, 125). Specific examples of appropriate nonverbal forms of communication for the physically handicapped (visually impaired, hearing impaired) and the learning disabled (44, 87) and students with moderate/severe/profound mental retardation have been suggested

(77). Research is also being completed concerning the dimensions of nonverbal behaviors toward abused and neglected children (180).

Teacher expectations, then, are linked to teacher behaviors, which in turn may have an effect on student performance (114). Without words, teachers communicate how they care about students, what they expect of them, as well as a great many other things to which they would never verbally admit. Students know when something bothers their teachers, whom their teachers like or dislike, as well as a surprising amount of other information teachers think they keep to themselves (103, 60, 141, 136). Based on the accumulated research concerning teacher expectations, educators should (1) provide equal opportunities for all students to participate in classroom activities, (2) be sensitive to differential treatment of high and low achievers, (3) not allow low achievers to be isolated in groups, and (4) believe and expect that all students can learn (114).

AREAS OF NONVERBAL EXPRESSION

Facial Expressions

The adage "A picture is worth a thousand words" well describes the meaning of facial expression. Facial appearance—including wrinkles, muscle tone, skin coloration, and eye color—offers enduring cues that reveal information about age, sex, race, ethnic origin, and status. A less permanent second set of facial cues—including length of hair, hairstyle, cleanliness, and facial hair—relate to an individual's idea of beauty. A third group of facial markers are momentary expressions that signal the emotions (79). These expressions are registered by muscle movements that cause changes in the forehead, eyebrows, eyelids, cheeks, nose, lips, and chin (38), such as raising the eyebrows, wrinkling the brow, curling the lip.

Some facial expressions are readily visible, while others are so fleeting as to go unnoticed (38). Both types can positively or negatively reinforce the spoken word and convey cues concerning emotions and attitude (35, 37, 144). Next to words the human face is the primary source of information for determining an individual's internal feelings (140, 102, 34). However, researchers cannot reach a consensus on the universality of meaning of any facial expressions.

Some physiologists contend that the face is capable of producing some 20,000 different expressions (102). Research has indicated that people in American culture display about 33 "kinemes" (individual communicative movements) in the facial area (10).

> A man finds room in the few square inches of his face for all the traits of all his ancestors; for the expression of all his history, and his wants. (40, p. 411)

Facial expressions may be involuntary or voluntary. People generally do not think about how to move facial muscles when truly frightened; therefore, the facial expression of fear is an example of an involuntary gesture. Facial expressions can also be voluntary, as when an individual wants deliberately to hide feelings. Such expressions are controlled for a number of reasons, but they are often dictated by societal or cultural standards, or are a product of family rules. "Boys should never cry or look afraid" is a rule American society ingrains in its young (38).

Although research indicates that people of all cultures display similar facial cues for some emotions—such as happiness, fear, and surprise (62)—culturally learned rules often trigger different responses. In American culture, for example, a snake might stimulate reactions of fear or disgust. In another culture, however, the same reptile might elicit joy or excitement, as it might represent a culinary delicacy (79).

Often people try to hide feelings and emotions behind masks (39). The frown, jutting chin, raised eyebrow, open mouth, and sneer are facial expressions that can betray and ultimately broadcast deception (35). All humans are capable of faking a happy or a sad face, a smile or a frown; but the timing inevitably gives them away. They cannot determine how long to keep it on or how quickly to let it go (23). Thus, when trying deliberately to deceive others, one may speak at a slower rate, make more speech errors, exhibit fewer head nods and more smiles (118).

Rosenfeld and his associates at Harvard University introduced a significant contribution to the study of nonverbal communication when they developed the most precise measure, to date, for determining a person's ability to understand facial, body, and vocal cues through 11 different channels of nonverbal communication. In preliminary testing, the Profile of Nonverbal Sensitivity (PONS) ascertained that females were more accurate in interpreting nonverbal cues than males; however, the margin lessened for males in certain occupations such as acting, psychiatry, art, design, and teaching (146). Further research revealed, to the contrary, that teachers were *not* accurate in interpreting *student* facial cues when considering comprehension of material; it also suggested that teaching experience did not improve the ability to assess the nonverbal cues (91, 92). In addition, the Affective Communication Test (ACT) is capable of providing a fairly good approximation of a person's ability to project a nonverbal message to others (85).

A more specific instrument, the Facial Affect Scoring Technique (FAST), was developed and used to show the extent to which observers can recognize (decode) facial expressions of emotion. In both the theory and the instrument, the face was divided into three areas: upper—brows and forehead; middle—eyes, lids, and bridge of nose; and lower—chin, mouth, nose, and cheek. Combining the areas rather than considering individual components provided more precise information (36).

Eyes

The most dominant and reliable features of the face, the eyes provide a constant channel of communication (89). They can be shifty and evasive; convey hate, fear, and guilt; or express confidence, love, and support (116). Studies show that gaze and eye contact can (1) provide information, (2) regulate interaction, (3) express intimacy, (4) exercise social control, and (5) facilitate goals (100).

> An eye can threaten like a loaded and leveled gun, or can insult like hissing or kicking; or, in its altered mood, by beams of kindness, it can make the heart dance with joy. (40, p. 409)

Referred to as the "mirrors of the soul," the eyes serve as the major decision factor in deciphering the spoken truth.

> The eyes of men converse as much as their tongues, with the advantage that the ocular dialect needs no dictionary, but is understood all the world over. When the eyes say one thing, and the tongue another, a practiced man relies on the language of the first. (40, p. 410)

Unlike other parts of the face, eyes can both send and receive messages (89). Except for extremely shy individuals, most people look for social acceptance by studying the eyes of others (116).

Eyes also can accurately indicate a positive or a negative relationship. People tend to look longer and more often at those whom they trust, respect, and care about than at those whom they doubt or dislike (81, 120, 141, 29, 31, 81, 99). Thus, eye contact is more evident with people around whom a person feels comfortable than with those around whom he/she feels uneasy. Normal eye dilation is not under the control of the individual (79). But when looking at something pleasing, an individual's pupils will measurably dilate; when viewing something displeasing, the pupils will constrict (6). Personality characteristics such as introversion/extroversion may also influence eye behavior (102).

Eye contact can be manipulated, however, to open or close channels of communication. Most hitchhikers, for example, realize that lengthening eye contact increases their chances of getting picked up. The restaurant patron needing service also knows the importance of catching the server's eye.

Eyes can be used as a good indicator of interest, or lack thereof, in a conversational topic (116). They can be used to determine whom one talks with, for how long, and about what. In addition, eye behaviors can control conversational roles—who is to speak and who is to listen. Thus, visual cues act as monitoring devices that regulate, coordinate, and control succession of speech. Speakers usually maintain eye contact and flash visual signals when they want to emphasize a particular point. Listeners

communicate their level of interest in both topic and speaker by looking (146).

Teachers can have individual contact with every student in the classroom through eye contact (89). Attitudes of intimacy, aloofness, concern, or indifference can be inferred by the way a teacher looks or avoids looking at a student.

The level of credibility and honesty has been found to be related to the amount of eye contact exhibited by a speaker (7). Thus, if a teacher has eye contact with only a selected few alert and interested students, other students might consider this to be biased favoritism (141).

Direct teacher eye contact can also express support, disapproval, or neutrality. Numerous evaluator specialists, for example, suggest that a stern look should be the first form of action taken by a teacher to handle obvious cheaters in a testing situation. This direct eye contact usually serves as a powerful corrective measure in negating the wandering eyes of the cheating student (41, 171).

Students also quickly learn to understand specific eye behavior communicated by the teacher signifying the ending of a class period, a request for an explanation, and many other messages (58). They know from experience to avoid eye contact when the teacher poses a difficult question. The general rule is to look down at notes or stare at the desk to avoid opening the channels of communication.

Most experienced teachers are aware when students are bored with the subject matter being presented. Students' eyes often signal listening and nonlistening behaviors, thus transmitting subtle messages about their lack of attentiveness. Students who are constantly looking at the wall clock rather than watching and listening to the teacher may be indicating the need for a break, the dullness of the content, or a lack of teacher motivation and preparation. In any case, observation of student eye behavior can be used in evaluating teacher performance.

Vocal Intonation

The adage "It is not what we say that counts, but how we say it" reflects the meaning of vocal intonation. Sometimes referred to as "paralinguistics," vocal intonation is probably the most understood (75) and valid area of nonverbal communication (33). It includes a multitude of components (for example, rhythm, pitch, intensity, nasality, and slurring) that elicit the "truth" of a message (81, 25). The vocal variations are fundamental components of expressive oral communication (83). If vocal information contradicts verbal, vocal will dominate (117).

The sound aspects of the voice can convey meaning beyond words, including information about individual attributes such as age, emotional state, or other personality characteristics. Also, vocal qualities are often

influential where prejudices against certain paralinguistic styles are evident—for example, a whining child. On the other hand, an unconscious bias of the listening public is a widespread positive prejudice in favor of men with low, deep voices with resonant tones, such as those qualities possessed by most male newscasters (163). Studies have also reported the use of vocal cues as accurate indicators of overall appearance, body type, height (105), and race, education, and dialect region (130).

Paralinguistic cues often reveal emotional conditions. (See Table 1.) Differences in loudness, pitch, timbre, rate, inflection, rhythm, and enunciation all relate to the expression of various emotions (24).

Experimental findings suggest that active feelings, such as rage, are exemplified vocally by high pitch, fast pace, and blaring sound. The more passive feelings, such as despair, are portrayed by low pitch, retarded pace, and resonant sound (25). In addition, stress is often vocalized by higher pitch and words uttered at a greater rate than normal. The reverse (lower pitch, slower word pace) is likely during depression (75).

Richard Nixon demonstrated the importance of paralinguistic communication when he sent transcripts rather than tapes of presidential conversations to the House Judiciary Committee in 1974. Committee members, considering possible impeachment and trying to determine the truth of the tapes' contents, complained that the "meaning" was not truly communicated because of the absence of voice modifications (81). Thus, vocal information—intonation, tone, stress, length, and frequency of pauses—is lost when speech is written; these two informational systems do not always communicate the same feelings (117).

Ironically, the same words or phrases can have many different meanings, depending on how they are said. For example, analyze the phrase "Thank you." If uttered sincerely, it generally means an expression of gratitude; if intoned sarcastically, it can insinuate an entirely opposite intention. Or if a mother asks a child to apologize for a wrongdoing, she often stresses that the child "mean it." The mother expects more than the mere words "I'm sorry," and listens closely for vocal intonation to support the sincerity of the message.

This powerful nonverbal tool can readily affect student participation. Consider a classroom situation in which the teacher asks a question and calls on one of the more talented students, who in turns answers the question correctly. Generally, the teacher responds with some positive verbal reinforcement enhanced by vocal pitch or tone, expressing the acceptance and liking of the student's answer (often accompanied by a smile or other forms of nonverbal approval). In the same situation, if the teacher called on a less talented student whose response was incorrect, not only might the teacher verbally reject the response, but he or she might also modify the future responding behavior of the less talented student because of the accompanying vocal cues.

TABLE 1. CHARACTERISTICS OF VOCAL EXPRESSIONS CONTAINED IN THE TEST OF EMOTIONAL SENSITIVITY*

Feeling	Loudness	Pitch	Timbre	Rate	Inflection	Rhythm	Enunciation
Affection	Soft	Low	Resonant	Slow	Steady and slight upward	Regular	Slurred
Anger	Loud	High	Blaring	Fast	Irregular up and down	Irregular	Clipped
Boredom	Moderate to low	Moderate to low	Moderately resonant	Moderately slow	Monotone or gradually falling	. . .	Somewhat slurred
Cheerfulness	Moderately high	Moderately high	Moderately blaring	Moderately fast	Up and down; overall upward	Regular	. . .
Impatience	Normal	Normal to moderately high	Moderately blaring	Moderately fast	Slight upward	. . .	Somewhat clipped
Joy	Loud	High	Moderately blaring	Fast	Upward	Regular	. . .
Sadness	Soft	Low	Resonant	Slow	Downward	Irregular pauses	Slurred
Satisfaction	Normal	Normal	Somewhat resonant	Normal	Slight upward	Regular	Somewhat slurred

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Touching

Touching is an important aspect of American culture. Even a handshake tells much about an individual's character (116). The human skin has hundreds of thousands of submicroscopic nerve endings serving as tactual receptors and detecting pressure, temperature, texture, pain, stroking, tickling (102).

Considered by many to be the most primitive form of communication (23), tactual sensitivity begins in childhood with a baby's first cuddling by its mother and greatly contributes to the mental and emotional adjustment of the individual (102). In fact, traditional methods of birth are a shock because of the "coldness" of moving the infant from a warm, secure womb to a sanitary bassinet. This sudden assault after removal from the mother's body may be a serious mistake (127). Newer methods, such as Lamaze, that provide gentler transitions foster natural birth and emphasize the importance of touching. Infants also touch themselves; they find comfort in the feel of their blankets and excitement in things warm and cold, smooth and rough (43).

Parents transmit feelings to an infant physically, not verbally. A parent can say to a baby, "I love you," but the words do not communicate. Babies are unable to talk and to understand words, but they can communicate most effectively and meaningfully what they feel. The period between 11 and 18 months of age is a critical time for the transition from prelinguistic to linguistic communication (65). During these early stages of development parents must provide total loving and affection through tactual communication (146). The behavioral development of babies deprived of such experiences can be stunted (116, 94) and can result in a variety of health problems (such as allergies and eczema) (127).

As infants grow older, they still use tactual experiences as a primary awareness tool to discover and learn until societal inhibitions are imposed to curtail or alter these behaviors (43). Until 10 to 12 years of age, children touch parents to express affiliation or aggression. At adolescence, touching is reduced to the extent that little of it occurs between parent and child beyond their hands and arms (6).

In general, the meaning of touching depends on the situation, culture, sex, and age (172, 72). For adults in American culture, touching, in most cases, is taboo. Because tactual experiences are considered private, adults often go out of their way to avoid making physical contact with strangers. This nontouching society directly relates to the concept of self; people feel that their bodies and clothing are "off limits" except under certain socially accepted conditions. These include sexual encounters with a spouse; touching between parents and children up to adolescence; greetings and farewells with friends and relatives (handshakes and hugs); professional touching by doctors, dentists, tailors; and contacts in specifically designed encounter groups where the primary purpose is therapy (6).

In most human relationships, touching can give encouragement, express tenderness, and show emotional support. In American culture touch is often used as a symbol of socioeconomic status—superiors may touch inferiors, but the reverse is not likely (81, 23). For this reason, status could prohibit a teacher from touching an administrator (93). Touching in a classroom situation also becomes a delicate matter. Since teachers are considered superiors in the classroom, they often initiate touching behaviors. Teacher judgment is the best indicator. A teacher who grabs the arm or shoulder of an unruly student enters the student's space uninvited. Aside from embarrassment, the student may develop other negative feelings toward the teacher. More positively, however, touching can also be used as a reinforcer. At times, a teacher can develop a closer relationship with students by invading their space. A simple pat on the back for a job well done is a much used and usually accepted form of praise. One study reports that when teachers exhibit such behaviors as touching and close body distance, as well as smiles of approval, small children tend to learn significantly more (98). As children grow older, however, these touching behaviors become less appropriate.

Body Postures and Movements

Kinesics refers to body movements (10) and movements communicate meaning (108, 68, 78). Bodies elucidate true messages about feelings that cannot be masked. People communicate by the way they walk, stand, and sit (79). When happy, they tend to walk vigorously; conversely, when "down in the dumps," they often slouch or possibly drag their feet (116). The power of body movements and postures is exemplified in foreign movies when English words are dubbed in. No matter how well the words are synchronized with lip movement, the gestures and body movements are often awkward. The body tends to move in harmony with words. As they converse with each other, people are often in unison—frequently with similar postural configurations (128).

Humans express attitudes toward themselves and others vividly through body motions and posture. Experimental findings indicate that postural relaxation of torso and limbs can denote status or strength in a relationship. People tend to be more relaxed with friends or when addressing those of lower status, and less relaxed with strangers or when addressing those of superior status (120). Body orientation (the degree to which the communicator's legs and shoulders face in the direction of, rather than away from, the listener) also indicates status or liking of the other individual. More direct orientation is related to a more positive attitude (120).

Because gestures are often comprehended more quickly than speech, they are preferred when communication is essential, as in moments of stress. In addition, because such avenues of communication are visual, they

travel much farther than spoken words and are unaffected by the presence of noise that interrupts or cancels out speech. Sometimes referred to as emblems, they can either add to or replace words (163).

Although the human body is fashioned similarly throughout the world, postural differences vary tremendously from culture to culture. While there are more than one thousand different steady postures available to humans, the postural choices made are usually determined by cultural influences (102). People in American culture have a narrow postural vocabulary and therefore have a difficult time accepting postural ranges found in foreign lands (128). For example, 25 percent of the world's population prefers to squat rather than to sit in chairs, which is an awkward position for Americans to accept. Supporting this theory:

> Insofar as we know, there is no body motion or gesture that can be regarded as a universal symbol. (10, p. 81)

Body postures and movements are frequently indicators of self-confidence, energy, fatigue, or status (79). In the classroom, students keen to receive body messages of enthusiasm or boredom about the subject matter being taught can sense confidence or frustration from the unconscious behaviors of teachers. Observant teachers can also tell when students understand the content presented or when they have trouble grasping the major concepts. A student slouching sends a very different message from one leaning forward or sitting erect.

Body movements and postures alone have no exact meaning, but they can greatly support or reject the spoken word (116). If these two means of communication are dichotomized and contradict each other, the result will be a distorted image and most often the nonverbal will dominate.

Dress

Charles Darwin refuted the notion that humans wear clothing mainly for protection from the elements (47). Often dictated by societal norms, clothing indicates a great amount of information about self. It identifies sex, age, socioeconomic class, status, role, group membership, personality or mood, physical climate, and time in history (146). Although most people are only superficially aware of the attire of others, clothing does communicate. Colors and fabrics are coordinated to send messages just as words are put together to form sentences (47). Dress can either alienate or persuade. Appropriate dress is a method of expressing respect for both the particular situation and the people in it: hence the need for Sunday clothes, work clothes, etc. Overtly, as with the hippies of the 1960s and 1970s, attire can be used to demonstrate dissension or refusal to accept the status game (23).

Traditionally, dress was used to classify the sexes (47). In addition, distinctive costumes were worn to indicate rigid hierarchical groups (168).

Today's changing Western culture does not follow these "tagging patterns." Historical dress once used to denote gender categories has been challenged by such styles as the female pantsuit. The business suit, once meant for the executive only, is now the appropriate dress for most of the business world. Clothing can also be age-graded. Some garments such as the miniskirt and bikini are appropriate for younger women and seldom worn by older women.

Much research has been completed about the effect of clothing on others. Clothing can reflect the personality, attitudes, and values of the wearer. Some people use clothing for decoration and self-expression; others are concerned with economy or comfort (79). Self-expression and ideal self-image are often vividly expressed by the selection of apparel (19).

One study, attempting to discern variants in impression formation, indicated that photographic female figures with makeup, brightly colored dress, and high hemlines were perceived as sophisticated, immoral, or physically attractive by both sexes (particularly males). Such results imply that dress has a decided influence on impressions formed by others, especially the opposite sex (76).

The personal artifacts (makeup, jewelry, glasses) with which people choose to adorn themselves also communicate a message to others. Glasses, for example, have stereotypically implied intelligence, honesty, and industriousness (164). More recent studies, however, have shown them to convey religiousness, conventionality, and little imagination (76).

An interesting study examined female subjects' descriptions of the characteristics of "popular women." Clothing was found to be second in importance to personality; physical appearance, which is obviously altered by clothing, was third (174).

Because clothing affects others' perceptions, people often dress to "fit the part." These clothing cues, however, have little effect on those with whom one is familiar. Thus, if one overtly alters a style of dress, those who know the person usually think it a "mood," rather than a permanent change of personality or values (146).

Attire can be considered in theatrical terms. For example, the teacher (actor) must be costumed to fit the curriculum (play) and the classroom (setting). In order to establish credibility, the teacher should strive to appear comfortable and at ease in the role, thus removing some of the typical teacher/student barriers (115). Although outward appearance does not, of course, indicate a person's knowledge, values, or philosophy, dress can communicate; but, in most cases, it is only a veneer. Students see instructors based on their motivation, sincerity, and fairness; they will be fooled only momentarily by clothing. A Savile Row suit or a Givenchy dress cannot turn a grouch into a lively, dynamic teacher. A smile is worth many times whatever the teacher might pay for clothes (61).

Use of Space

A subtle component of nonverbal communication, the use of space, or proxemics, indicates territory to which access is allowed or denied to other people or objects (43, 69). Hall (69) identified three types of space:

1. *Fixed-feature space* (immovable walls or partitions and objects)
2. *Semi-fixed-feature space* (big objects, such as chairs and tables)
3. *Informal space* (personal space around individuals).

The findings and implications of a controlled experiment conducted more than 30 years ago remain relevant to many classroom environments in today's schools. The study dealt with the effect of different aesthetic room qualities on students' ratings of pictured faces based on dimensions of "energy" and "well-being." Subjects were placed in one of three rooms—one beautiful, one ugly, and one average. The beautiful room had two large windows with drapes, beige walls, indirect overhead lighting, and attractive furnishings; the ugly room had two half-windows, battleship gray walls, an overhead bulb with a dirty lampshade, and furnishings to give the impression of a dirty storeroom; the average room (a professor's office) had three windows with shades, battleship gray walls, indirect overhead lighting, and reasonably attractive furnishings. Subjects in the beautiful room rated the faces significantly higher than did those in either of the other two rooms. Responses in the average room more closely resembled those in the ugly room than those in the beautiful room (113).

A followup study to determine if the results were long-lasting increased subjects' time in both the beautiful and the ugly rooms from the original ten minutes to eight hours (four one-hour sessions and two two-hour sessions). The findings were dramatic: subjects in the ugly room had reactions of monotony, fatigue, headaches, irritability, and hostility; those in the beautiful room responded favorably with feelings of comfort, pleasure, importance, and enjoyment for completing the assigned tasks (126).

The implications concerning fixed-feature spatial environments for today's classrooms are obviously important, considering that students spend about six hours a day, five days a week, forty weeks a year in these learning environments (145). Clearly, the physical classroom environment can create moods and establish how much interaction (communication) takes place (146).

Physical arrangement of furniture, such as chairs, desks, and tables, also dictates spatial boundaries and effectively communicates through subtle channels (156, 145). Most schools lack imagination and creativity regarding the elements that could easily be manipulated to make the learning environment more exciting (145). Despite many teaching innovations, most classroom settings remain approximately the same (161), with

dark and dismal interiors (71, 101).

Space in the classroom may also serve to indicate status, dominance, and leadership. A teacher's desk may act as a barricade to prevent students from entering her/his space and thus inhibit interaction (109). Students frequently use space to send a message about their interest or preparation in a course by sitting in the front or the back of the classroom.

Researchers have found that straight-row seating, which originally evolved to make optimum use of natural lighting from windows (155), greatly affects student involvement in the process of communication. The location of students in typical straight-row seating is a major factor in determining which students the teacher talks with and which students respond to the teacher (2, 155). With such an arrangement, student interaction is greatest in the front and middle rows, whether seating is imposed or self-selected (155).

A two-phased experimental study concluded that seating arrangements can also affect test performance. In the first phase of this experiment, 58 undergraduate students were allowed to choose their own seats in a classroom. Analyses of two tests administered to this group showed that students seated at the front of the classroom scored higher than those seated at the rear. In the second phase, 32 of the original group of students were selected and assigned seats in the classroom. After a lecture, students took an announced "pop" quiz based on the lecture content. Again, results showed that students seated at the front of the classroom performed better than those at the rear. High-ability students also performed well, regardless of their position in the classroom. However, low-ability students who were seated at the front of the classroom improved their performance (6). Additional research cautions that this "front and center" area in classroom seating arrangements may not be as important as earlier believed, because other factors influence teacher-student interaction (179).

From childhood on, one learns the meanings of thousands of spatial cues (70). Most people in American culture have been reared with the understanding that a precise amount of space must exist when two people communicate. This personal "space bubble" changes size and shape, depending on the situation. Four categories of informal space have been established by society's middle-class:

1. *Intimate*—This zone is reserved for close relationships, sharing, protecting, and comforting.
2. *Personal*—Informal conversations between friends occur in this 1½-to-4-foot zone.
3. *Social*—An extended distance of 4 to 12 feet is generally acceptable for interaction between strangers, business acquaintances, and teachers and students.
4. *Public*—Between 12 and 25 feet is the distance used for such one-way communication as exhibited by lecturers. (69)

It might be noted that in an average, arranged classroom teachers and students are separated by 12 or more feet (49).

Whereas other cultures rely heavily on close proximity to decipher truth and honesty, American culture accepts closeness only for intimate relationships. From early childhood, Americans are taught to avoid body contact with strangers (70). Many nonverbal cues such as eye contact, body gestures, and facial expressions limit the space between individuals. Most people tend to get closer to those they like and maintain a greater distance from those they dislike or fear or who are of a superior status (69, 120, 175). People also stand farther away from those with handicaps, those from different racial backgrounds, and authority figures (146).

The distance between teacher and students is a critical factor in the communication process. Teachers can easily transmit feelings of acceptance or rejection simply by the distance they maintain. They have "freedom of space" whereas students do not (156). Teachers, as well as others, have a tendency to get closer to students they like. A quick observation of a classroom will often identify the teacher's pets, as well as those students the teacher dislikes. To avoid accusations of favoritism, teachers should make a conscious effort to get within the space bubble of *all* students. By traveling freely throughout the classroom, they reinforce the concept of joint ownership (157).

The most advanced curriculum and the highest hopes have little chance of success without a supportive physical learning environment (145). In order to foster productive communication in the classroom, teachers must allow for flexible changes that are beneficial for group interaction. It should be noted, however, that appropriate spatial distances and arrangements are limited by a myriad of variables, including the conversational topic, the nature of the relationship, and the physical constraints present in the classroom (142).

Nevertheless, with a minimum amount of effort, it is possible to make changes in the classroom that will positively affect the learning environment. These are several general guidelines:

1. The classroom should offer a variety of stimuli.
2. The classroom should provide a secure, comfortable feeling.
3. The classroom should be adapted to fit the activity.
4. The classroom should give some privacy and individuality.

CONCLUDING COMMENTS

If effective communication is to be achieved in today's schools, it must be an open process where teachers and students possess the ability to send and receive messages accurately. A good teacher is a good listener, not

only to words being spoken, but also to silent messages that signal agreement/disagreement, attention/inattention, boredom/interest, and the desire of the student to be heard. Teacher effectiveness is generally characterized by showing enthusiasm, varying facial expressions, gesturing for emphasis, moving toward students, spending more time in front of the class than behind a desk or at the chalkboard, maintaining eye contact, displaying head nods, speaking with clear voice and varied intonation, correlating between verbal and nonverbal messages, and exhibiting a sense of humor (177).

Knowledge is transmitted through effective communication and nurtured by skillfully sending and receiving messages in a variety of situations (82). Just as academic skills are developed through practice, nonverbal behaviors must be learned and practiced. These behaviors include fostering positive characteristics, mannerisms, actions, and habits, as well as overcoming negative ones that depress an atmosphere for learning (63).

The following suggests a continuum model for judging teacher nonverbal behavior with pupils. It is based on ten dimensions ranging from encouraging to restricting (52, 53, 54, 57, 58).

DIMENSIONS OF TEACHER NONVERBAL BEHAVIOR

Encouraging		*Restricting*
Congruity	⟷	Incongruity
Responsive	⟷	Unresponsive
Positive Affectivity	⟷	Negative Affectivity
Attentive	⟷	Inattentive
Facilitating	⟷	Unreceptive
Supportive	⟷	Disapproving
Intimate	⟷	Distant
Inclusive	⟷	Exclusive
Free Time	⟷	Restricted Time
Open Space	⟷	Closed Space

- *Congruity/Incongruity* refers to the consistency of verbal and nonverbal elements communicated by the teacher. Congruity occurs when the nonverbal supports and reinforces the verbal message; a mixed message or incongruity exists when there is a discrepancy or contradiction between these two channels.
- *Responsive/Unresponsive* refers to modifications in teacher behavior as a result of student feedback. A responsive act occurs when a teacher's reactions or responses are appropriate to the nonverbal student feedback (e.g., altering the instructional delivery pattern because of student misunderstanding of lesson content). Unresponsive acts are identified by the lack of teacher responsiveness to student feedback, either by ignoring or being insensitive to student actions.
- *Positive/Negative Affectivity* refers to the expressions exhibited by the teacher to reinforce student behaviors. Positive affective expressions

include warm feelings, high regard, cheerful enthusiasm, and acceptance. Negative affective expressions include aloofness, coldness, low regard, indifference, and rejection.

- *Attentive/Inattentive* refers to the teacher's ability to listen to student messages. Attentiveness implies listening with patience and interest; inattentiveness implies disinterest in or failure to encourage the student's verbal or nonverbal behavior.
- *Facilitating/Unreceptive* refers to the teacher's response to the pupil's needs and/or problems. A facilitator encourages students to share problems and responds positively to them. An unreceptive teacher openly ignores or responds in an inappropriate manner to a student's question or request.
- *Supportive/Disapproving* refers to actions exhibited by the teacher to reinforce or thwart student behavior or pupil interaction. Supportive teacher behaviors include encouraging and praising. Disapproving behavior expresses dissatisfaction and discouragement; it may even seek to punish student behavior.
- *Intimate/Distant* refers to types of contact between teachers and their students. Intimacy is characterized by the presence of a psychological and physical closeness; distance by the absence of physical contact, by withdrawal, or by "cold" treatment.
- *Inclusive/Exclusive* refers to nonverbal behaviors exhibited by the teacher to include or exclude students. Inclusion is evident when mutual glances and acknowledgments foster communicative exchange. Exclusion suggests a refusal to recognize or an ignoring of the student's presence.
- *Free Time/Restrictive Time* refers to the use of time with others, including not only the quantity but also the quality.
- *Open Space/Closed Space* refers to travel routes and territorial rights in the classroom. Student accessibility to the space and territories of the school and classroom fosters openness, whereas denying access to these areas restricts.

Still in its infancy, nonverbal research has been overshadowed by the popular attention given its older sibling, linguistic research (67). Connoisseurs of the subtleties of the nonverbal behavior of others and self recognize the multidimensionality of nonverbal experiences and analyze these cues within the context of various settings (50). Increasing awareness of one's nonverbal behavior requires practice and patience. As one works to improve nonverbal actions, the goal should be to foster positive characteristics, mannerisms, actions, and habits as well as to overcome the negative traits that depress an atmosphere for learning (123).

To help teachers avoid any dogmatic evaluation of student's nonverbal behaviors, a final point needs to be made. No formalized reliable means have been developed to identify and interpret all nonverbal behaviors (32).

Many student behaviors are autonomic, idiosyncratic, and ambiguous when considered out of context (152, 101, 103, 75, 180, 179). Thus it is important not to jump to conclusions or to make generalizations without considering (1) deviant behavior from a baseline, (2) cultural backgrounds, and (3) sex differences (33, 73).

Deviant behavior refers to acts that vary from a standard pattern. For instance, it is more important to notice when students who are consistently good responders are not following their usual pattern of frantically raising their hands to be heard than to notice that they raise their hands more often than others in the class. The lack of attempts to respond may convey more meaning than the usual hand raising. The critical point is not noticing the frequency of behavior, but, rather, identifying the discrepancies.

The second validity check on nonverbal communication considers the individual's specific culture. Nonverbal behaviors and their perceptions are different for many cultures (131, 9). Moreover, the ability to read or speak a foreign language does not guarantee an understanding of the cultural aspects that go beyond the lexical (128). What is correct in one country may not be considered appropriate in another (176, 10). Teachers, administrators, and counselors must make personal adjustments to compensate for the cultural diversity found in classrooms. Obviously, cross-cultural differences found in Florida classrooms will not be the same as those found in New York classrooms. Those who teach or work in such culturally pluralistic situations need to acquire knowledge and empathy to interpret correctly the meaning of these nonverbal differences (67).

The third validity check on nonverbal communication considers students' sex differences. Because of stereotyped upbringings of boys and girls, many nonverbal cues and behaviors could be misinterpreted. Treated differently from birth, boys and girls begin to act differently in some ways. Research has shown that while males are believed to be more aggressive, athletic, and mechanical, females are thought to be more conforming, quiet, and generally interested in scholarly activities (112). Teachers may, however, notice in some girls an aggressiveness that can be related to increased participation in sporting competition. Moreover, it is not at all uncommon to find boys who are much more interested in science or music than in sporting activities.

Singly, nonverbal behaviors may not have implicit meaning; they should be considered in context (75, 50, 149, 12, 180, 179, 21). Although some nonverbal actions may be given more weight than others, oversimplifying the analysis of these behaviors should also be avoided (102). Nonverbal awareness implies a conscious effort to employ all the senses in receiving and sending messages. Insights into nonverbal communication not only heighten sensitivity to others, but inevitably strengthen self-understanding as well. Communication between teachers and students can be greatly improved by a better understanding and use of nonverbal behaviors.

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